Remarks

The rejection of claims 1, 2, 4 6-10, 27, 28, 31 and 32 as under 35 U.S.C. § 103 as unpatentable over U.S. Patent No. 6,086,982 to Peiffer et al. is respectfully traversed. Applicants' invention as set forth in independent claim 1 comprises a multi-layer biaxially oriented polyolefin film, which comprises a co-extruded core layer, and a surface layer bonded together, wherein the surface layer comprises a heat sealable thermoplastic polymer. The core layer is formed of an ethylene/propylene copolymer having an isotactic structure and containing ethylene in an amount of 1 wt.% or less which is effective to provide an enhancement in the inter-layer bond strength of at least 15%. Independent claim 31 calls for an enhancement of inter-bond strength of at least 50% and independent claim 32 calls for an enhancement of inter-layer bond strength of at least 30% with an ethylene content in the core layer between 0.3 and 0.5 wt.%. Claims 4 and 6 depend from claim 1 and call for an ethylene content in the core layer between about 0.5-0.8 wt.% and between about 0.1-0.2 wt.% respectively. Claim 7 depends from independent claim 31 and thus requires an enhancement in the interlayer bond strength of at least 50% and specifies a ethylene content of about 0.5-0.7 wt.%. Dependent Claim 28 also recites an ethylene content within the range of about 0.05-0.08 wt.% for the core layer.

The patent to Peiffer does not disclose the use of a small amount of ethylene in an ethylene/propylene copolymer forming the core layer of a multilayer film to enhance the interlayer bond strength between the core layer core and a surface layer. In fact, Peiffer makes no reference to bond strength, and the use of ethylene in any amount to enhance the interlayer bond strength between adjacent layers of a multilayer film is not even remotely addressed in the Peiffer reference. In summary, Peiffer fails to disclose an enhancement in the bond strength between surface and core layers as required in applicants' claims and further contains absolutely

no disclosure of any kind respecting the interlayer bond strength between surface and core layers of a multi-layer film.

As the Office Action is understood, the Examiner acknowledges that the patent to Peiffer does not disclose an enhancement in interlayer bond strength as called for in claims 1, 31 and 32. Nor does the reference disclose the heat seal characteristics called for each of these claims. Given the shift from the inherency argument presented in the previous Office Action to an alleged obviousness argument presented in this Office Action, it would appear that the Examiner further acknowledges that the reference contains no disclosure relating to the use of a particular ethylene content in an ethylene/propylene copolymer that would have any impact upon interlayer bond strength. The position apparently taken in the Office Action that one of ordinary skill in the art would have been motivated to employ the ethylene content in an ethylene/propylene copolymer to enhance interlayer bond strength does not find support in Peiffer. This motivation is made possible only after a reading of applicants' specification. One of ordinary skill in the art considering only the prior art reference and not applicant's disclosure, could not conceivably come to the conclusion that the enhancement in interlayer bond strength as set forth in applicants' claims, could be achieved by employing ethylene contents in the amounts set forth in applicants' claims. It is worth repeating that there is absolutely no motivation provided in the prior art to employ the ethylene content of an ethylene/propylene copolymer to arrive at an enhancement in interlayer bond strength.

To the extent that the §103 rejection might represent a position that one of ordinary skill in the art could establish obviousness within the meaning of §103 by simply reassembling the Peiffer teachings in an attempt to arrive at applicants' inventions, applicants would respectfully submit that this approach is contrary to decisions of the Federal Circuit and the PTO Board of

Appeals and Interferences on the issue of obviousness. In this regard, attention is respectfully invited to the standards applied by the Board of Appeals in *Ex parte Chicago Rawhide Manufacturing Co.*, 223 USPQ 351 (PTO Bd. of App. 1984), which are clearly applicable here. In reversing the Final Rejection, the Board stated:

> . . . in order to meet the terms of the claims on appeal, the elements of the Baney device have to be arranged in a manner different from that disclosed in Baney . . . The mere fact that a worker in the art could rearrange the parts of the reference device to meet the terms of the claims on appeal is not by itself sufficient to support a finding of obviousness. The prior art must provide a motivation or reason for the worker in the art, without the benefit of the appellant's specification, to make the necessary changes in the reference device. (Emphasis added) Page 353.

Here, the prior art does not provide a "motivation or reason" as required in the *Rawhide Mfg.* case. Here, to arrive at the invention, one must go beyond a simple modification of the Peiffer disclosure and act in a manner directly contrary to the teachings of the reference.

Attention is also respectfully invited to the Federal Circuit's decision in *In re Fine*, 5 USPQ2d 1596 (Fed. Cir. 1988), wherein the Court stated at 1600:

> It is essential that "the decisionmaker forget what he or she has been taught at trial about the claimed invention and cast the mind back to the time the invention was made . . . to occupy the mind of one skilled in the art who is presented only with the references, and who is normally guided by the then-accepted wisdom in the art." *Id.* One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention: (Emphasis added.)

In considering the issue of obviousness, the Examiner is requested to carefully consider the admonition of *In re Fine* and to step back in time to evaluate the invention only in the context of what is disclosed in Peiffer without regard to what is disclosed in applicants' specification. When this is done, it is believed to be clear that one of ordinary skill in the art would not arrive at applicants' invention based only upon the reference and "the then-accepted wisdom in the art."

With respect to the arguments advanced in the Office Action relating to "unexpected results," applicants would respectfully submit that results achieved by applicants' invention are indeed unexpected. This issue will be addressed below. However, before doing so, it should be noted that the issue of unexpected results arises only if a *prima facie* case of obviousness is established, which an applicant seeks to rebut through the showing of unexpected results. In this case, there is in the first sense, no *prima facie* case of obviousness. It is noted in the first instance that the position taken on page 4 of the Office Action, "The Examiner notes it is well established in the art...as the ethylene content increases...the heat sealability/bond strength increases" is a wholly gratuitous assumption on the Examiner's part. The asserted relationship is not well established in the prior art. In fact, the prior art contains nothing to support the view that there is a relationship between ethylene content and bond strength. However, assuming that the Examiner's position as quoted above is accurate, the purported relationship between ethylene content, "as the ethylene content increases," the "bond strength increases" would suggest that one of ordinary skill in the art should operate near the upper limits of the ethylene disclosed in Peiffer in order to provide an enhanced interlayer bond strength. Applicants' invention proceeds in a directly contrary direction, using not values near 10%, the upper limit of ethylene content disclosed, but instead, values of ethylene content of 1% or less to achieve a very substantial increase in interlayer bond strength. The data found in applicants' specification in Table II shows that employing an ethylene content of only 0.6 wt.% achieves an approximately 70% enhancement in interlayer bond strength over the interlayer bond strength achieved with a propylene homopolymer containing no ethylene. Even if Peiffer is construed as proposed by the Examiner to show a direct relationship between ethylene content and interlayer bond strength, it is clear that applicants' finding of this substantial enhancement in interlayer bond strength with a

very small ethylene content is unexpected in view of the prior art reference as construed by the Examiner.

With respect to ex parte Obieya, 227 USPQ 58 (PTO Board of Appeals and Interferences 1985), cited on page 4 of the Office Action, applicants would respectfully note that the situation here does not involve the recognition of "another advantage" over an advantage disclosed in the prior art. The patent to Peiffer does not disclose any advantage in employing a low ethylene content as claimed here.

In summary, Peiffer does not disclose or render obvious a 15% enhancement in interlayer bond strength for an ethylene/propylene copolymer having a maximum ethylene content of 1 wt.%, as called for in claim 1. It does not disclose that the surface layer comprises a thermoplastic polymer capable of forming an effective heat seal with a corresponding thermoplastic polymer upon heating and compression. In fact, as noted in applicants' previous response, one of ordinary skill in the art would assume that such heat sealable characteristics would not be involved in the Peiffer films since the uses for such films include insulating films in capacitors. The reference further fails to disclose ethylene/propylene copolymers of even lower ethylene content as specified in claims 4, 6, 7 and 28, nor is there any suggestion that even greater enhancement in interlayer bond strength can be achieved as specified in claims 31 and 32.

It is respectfully submitted that the disclosure in Peiffer of a very broad ethylene content in an ethylene/propylene copolymer does not establish obviousness of the very narrow ethylene contents as set forth in applicants' claims. However, this issue aside, it is noted that the various disclosures in Peiffer relating to ethylene content appear to be directed to copolymers or terpolymers which are used to form the so called top plys of the Peiffer film and not the core

layer. In this respect the material referenced in the Office Action at column 5 line 57 through column 6 line 37 of Peiffer, appears to be directed to homopolymers, copolymers, and terpolymers which are used in the top plys of the Peiffer multilayer film. To the extent copolymers are involved, the ethylene content is from 1 to 10 wt.%, preferably 2.5 to 8 wt.%. If one skilled in the art were to construe the Peiffer disclosure as suggesting these top ply formulations for the core ply of a multilayer film, the result would clearly be an ethylene content well in excess of that called for in applicants' claims.

The Examiner's position that the reference teachings regarding the various ethylene contents of the ethylene/propylene copolymers is directed to the base ply and not the top plies, is simply at odds with the disclosure found in Peiffer. It may be that the Peiffer reference is vague and inconsistent in its description of the top and base plies involved in the Peiffer monolayer or multilayer films. However, it is clear from the description found in columns 5 and 6 of the reference that various copolymer and terpolymers disclosed there are intended for use in the top plies and not the core layer. Further, among the examples in Peiffer, Example 6 directed to a three-ply film discloses a base ply of isotactic polypropylene homopolymer and top plies of ethylene/propylene copolymers.

In conclusion, the patent to Peiffer is directed to polypropylene films that may be single ply or multilayer that are configured to have low shrinkage values. To the extent that Peiffer involves a multilayer film, it does not call for a surface layer capable of forming an effective heat-seal as required in each of applicants' claims. In fact, Peiffer makes absolutely no reference to heat-sealability of the surface layer of a multilayer film. The subject of heat sealing is discussed only in reference to films for the wrapping of cigarette packs. Such films presumably would be single ply structures. Further and as noted previously, the nature of the products, in

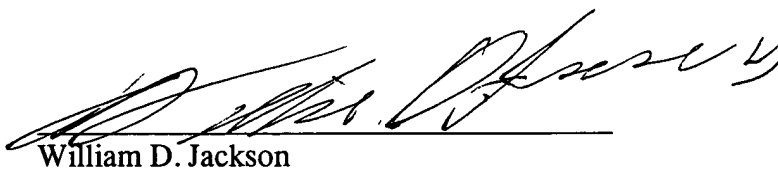
which the low shrinkage achieved in Peiffer is employed, would include products such as insulating materials in capacitors. Clearly, there would be no reason for such dielectric products to have a heat-sealability characteristic as specified in applicants' claim.

The patent to Peiffer is also devoid of any reference to inter-layer bond strength. Further, the patent to Peiffer contains no disclosure of a multilayer film incorporating a core layer that is treated to enhance inter-layer bond strength. Clearly, Peiffer does not disclose the use of an ethylene/propylene copolymer as a core layer in a biaxially oriented multi-layer film in which the ethylene content is 1 wt.% or less as specified in claim 1 or within the other low levels of ethylene content as specified in claims 4, 6, 7, 28, and 32. In fact, in Peiffer, where ethylene is present in a multilayer film, it is present in a top layer and not in the base layer as indicated by Example 6.

For the reasons advanced above, it is respectfully submitted applicants' claims are not obvious with respect to the patent to Peiffer. Accordingly, in early reconsideration in allowance this application is respectfully requested.

This response is accompanied by a check in the amount of $950, the fee for a three-month extension for response for a large entity, which will extend the deadline for response to March 25, 2004. The Commissioner is authorized to charge any additional fees due in connection with this response to the Locke Liddell & Sapp LLP Deposit Account No. 12-1781.

Respectfully submitted,



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